



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

Spencer: Is "black tongue in dogs pellagra?" *Am. Jour. Veterin. Med.*, Chicago, April 1916, vol. 11, p. 325.

Tremmel: Die Stuttgarter Hundekrankheit in Wien? *Thierärztliches Centralblatt*, Wien, Oct. 1, 1900, vol. 23, p. 453.

Zschokke: Die Hundeseuche; Gastritis haemorrhagica. *Schweizer-Archiv. f. Thierheilkunde*, Zurich, 1900, vol. 42, p. 241.

## HEALTH WORK IN A MODEL VILLAGE.

### SECOND ANNUAL REPORT OF THE DEPARTMENT OF HEALTH, PERRY POINT, MD.

By H. I. HUNTINGTON, Assistant Bacteriologist, United States Public Health Service.

#### Introduction.

The United States Public Health Service owns a tract of land comprising 516 acres adjoining the town of Perryville, Md. This reservation, upon which was constructed during the war an enormous ammonium nitrate plant and a model village to house the employees, was transferred to the Public Health Service by an act of Congress in 1919. The reservation, known as Perry Point, forms a peninsula of land projecting into the Chesapeake Bay at the point where the Susquehanna River and Mill Creek empty.

The activities of Perry Point may be divided under three heads:

*Hospital.*—The United States Public Health Service Hospital No. 42, known now as the United States Veterans' Bureau Hospital, is located in the center of the reservation. The capacity of the hospital is 430 beds; the type of patients received is psycho-neurotic. Closely connected with the hospital is the Veterans' Bureau Pre-Vocational School. There is now under construction another hospital of 300-bed capacity.

*Village.*—The village consists of 200 houses, store buildings, a theater, club house, schoolhouse, and fire department. The supervision and custody of the village comes directly under the Medical Officer in Charge.

*Supply depot.*—The supply depot is a branch of the purveying service. It occupies nearly all the large plant buildings, storing vast quantities of hospital supplies and equipment and motor transportation equipment. This material is shipped to the various hospitals and stations of the Public Health Service. During the year 1921, 17,890,114 pounds of supplies were received at this station and 10,330,943 pounds were shipped away.

#### Organization.

The organization of a whole-time health department dates back to January, 1920, when the writer was detailed to Perry Point to establish a health department and to carry on its activities. The

factors which make necessary a health department on this reservation are summarized below.

- I. To carry out United States Public Service principles and plans, i. e.—
  - a. To do on its own reservation what it advises other municipalities to do;
  - b. To assist in standardizing, as far as possible, public health problems which are common to all communities of a similar size;
  - c. To carry on public health work on the same economical basis as would be required of a health department where appropriation would naturally be limited.
- II. To supervise public health problems which would not be cared for by the State or county, since this is a Government reservation.
- III. To protect the health of hospital patients, vocational trainees, and other Federal beneficiaries.
- IV. To prevent communicable diseases from being introduced by the large number of employees working on the reservation but living in the nearby towns.

In carrying out the program of the health department, close relations were established with the State department of health, the county health officer, and the county public health nurse.

#### Activities.

The activities of the health department may be grouped as follows:

1. Administration.
2. Vital Statistics.
3. Communicable Diseases.
4. Child Hygiene and School Inspection.
5. Sanitary engineering.
6. Food Inspection.
7. Public Health Education.

#### VITAL STATISTICS.

*Population.*—The population figures referred to in this report represent the actual figures compiled from a house to house census taken on June 14, 1921. When reference is made to the population of Perry Point only people living in the village are included. Patients, nurses, aides, and servants are included in the hospital population, which is subject to change during the year.

The following table is self-explanatory:

TABLE I.—*Census report of Perry Point, June 14, 1921.*

Population in village.....	807
Population in hospital (nurses, aids, patients, servants).....	575
Total population on reservation.....	1,382

	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Population in village.....	411	378	9	9	807
Patients.....	388	0	10	0	396
Nurses, aids, orderlies, etc.....	58	33	41	47	179
Total.....	855	411	60	56	1,382

## AGE DISTRIBUTION OF VILLAGE POPULATION.

Age group.	White.		Colored.		Total.
	Male.	Female.	Male.	Female.	
Under 1 year.....	13	15	0	0	28
1 to 5 years.....	40	34	0	1	75
6 to 10 years.....	47	29	1	1	88
11 to 20 years.....	48	63	1	1	113
21 to 30 years.....	79	91	2	3	175
31 to 40 years.....	93	68	2	2	165
41 to 50 years.....	52	39	1	1	93
51 to 60 years.....	32	18	2	0	52
61 to 70 years.....	7	8	0	0	15
71 years and over.....	0	3	0	0	3
Total.....	411	378	9	9	807

*Birth rate.*—The high birth rate of 1920 was nearly equaled during 1921.

TABLE II.—*Comparative birth rates, 1919–1921.*

Year.	Perry Point.			Cecil County, rate per 1,000 population.	State of Maryland, rate per 1,000 population.	United States registration area, rate per 1,000 population.
	Population.	Number of births.	Rate per 1,000 population.			
1921.....	807	31	38.41	<sup>a</sup> 27.31	.....	.....
1920.....	839	33	39.33	23.00	25.12	23.70
1919.....	.....	.....	.....	23.78	23.60	22.30

<sup>a</sup> Unofficial.

TABLE III.—*Tabulation of births, by months, 1920 and 1921.*

Month.	1921			1920		
	Male.	Female.	Total.	Male.	Female.	Total.
January.....	1	2	3	1	1	2
February.....	1	1	2	2	1	3
March.....	1	1	2	0	1	1
April.....	2	0	2	1	2	3
May.....	2	2	4	3	4	7
June.....	1	1	2	0	2	2
July.....	1	0	1	0	1	1
August.....	1	2	3	0	3	3
September.....	3	2	5	0	1	1
October.....	3	0	3	2	0	2
November.....	1	2	3	3	2	5
December.....	1	0	1	1	2	3
Total.....	18	13	31	13	20	33

*Death rate.*—During the year 1921 there were two deaths in the village, making the death rate per 1,000 population lower than the rate for 1920.

TABLE IV.—*Comparative death rates, 1919–1921.*

Year.	Perry Point.			Cecil County.	State of Maryland.	U. S. registration area.
	Population.	Number of deaths.	Rate per 1,000 population.	Rate per 1,000 population.	Rate per 1,000 population.	Rate per 1,000 population.
1921.....	807	2	2.47	<sup>a</sup> 15.36	.....	.....
1920.....	839	3	3.57	13.85	14.69	13.06
1919.....	.....	.....	.....	16.89	15.66	12.87

<sup>a</sup> Unofficial.

TABLE V.—*Causes of death in Perry Point, 1921.*

	Number.	Age.
Diabetes.....	1	64 years.
Premature birth.....	1	1 hour.

*Infant mortality.*—It is interesting to note that with a high birth rate, there is maintained, as in 1920, a surprisingly low infant mortality rate.

TABLE VI.—*Comparative infant mortality rates, 1919–1921.*

Year.	Perry Point.			Cecil County.	State of Maryland.	U. S. registration area.
	Number of births.	Number of deaths.	Infant mortality rate.	Infant mortality rate.	Infant mortality rate.	Infant mortality rate.
1921.....	31	1	32.26	.....	.....	.....
1920.....	33	1	30.30	90.24	102.76	86.00
1919.....	.....	.....	.....	110.09	104.91	86.60

TABLE VII.—*Comparative vital statistics, 1921 and 1920, Perry Point, Md.*

Year.	Popula- tion.	Birth rate.	Death rate.	Infant mortality rate.	Still births.
1921.....	807	38.41	2.47	32.26	0
1920.....	839	39.33	3.57	30.30	4

## COMMUNICABLE DISEASES.

Considerable stress has been placed upon the immediate reporting of communicable diseases by doctors, householders, and school children, thus enabling prompt isolation or quarantine. All householders on the reservation have received a copy of the State law governing the reporting of diseases by householders. Physicians practicing in the village were instructed to report their cases to the health officer as soon as diagnoses were made. Employees working on the reservation, but living in various parts of the county, have received notices instructing them to report all cases of communicable diseases occurring in their homes.

Morbidity reports were received from the State department of health each day. They were valuable because they reported diseases which were prevalent in the county and were used as a check on employees coming from homes where there was a disease.

The proximity of the reservation to the town of Perryville made the introduction of diseases from that town quite possible. Since there had been no quarantine enforcement in Perryville, the writer requested of the State department of health that he be deputized to act as quarantine officer in the district contiguous to the reservation. This request was granted and the authority proved valuable, especially during a mild epidemic of scarlet fever which occurred in Perryville during March and April.

TABLE VIII.—*Morbidity reported for Perry Point and Cecil County, 1920 and 1921.*

Disease.	Perry Point.		Cecil County.	
	1921	1920	1921	1920
Influenza.....	14	21	40	444
Whooping cough.....	16	0	51	14
Measles.....	10	7	6	225
Scarlet fever.....	3	0	62	23
Chicken pox.....	4	17	18	21
Diphtheria.....	1	3	25	27
Poliomyelitis.....	1	0	1	0
Typhoid fever.....	0	0	26	17
Pneumonia (all forms).....	0	1	36	61
Mumps.....	0	1	3	12
Erysipelas.....	0	1	3	0
Malaria.....	0	0	1	0
Encephalitis.....	0	0	2	0
Typhus fever.....	0	0	1	0
Infant diarrhea.....	0	0	1	0
Tuberculosis.....	0	2	0	0
Total.....	49	53	275	844

TABLE IX.—*Morbidity reported, by months, Perry Point, 1921.*

Disease.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Chicken pox.....	0	2	2	0	0	0	0	0	0	0	0	0	4
Diphtheria.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Influenza.....	0	6	8	0	0	0	0	0	0	0	0	0	14
Measles.....	1	0	0	0	0	0	1	7	1	0	0	0	10
Poliomyelitis.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Scarlet fever.....	1	0	2	0	0	0	0	0	0	0	0	0	3
Whooping cough.....	0	0	3	10	3	0	0	0	0	0	0	0	16
Total.....	2	9	15	10	3	0	1	7	2	0	0	0	49

*Laboratory control of diseases.*—The department of health has excellent facilities for prompt diagnosis of laboratory specimens. Cultures and specimens can be sent to the laboratory of the State department of health in Baltimore, or they can be examined in the laboratory connected with the hospital.

The number of specimens from Perry Point examined by both laboratories for 1921 were few in number, as Table X shows.

TABLE X.—*Laboratory examinations for village, 1921 and 1920.*

Where made.	Throat culture for diphtheria.				Blood specimen for malaria, 1921.	
	1921		1920			
	Positive.	Negative.	Positive.	Negative.	Positive.	Negative.
United States Public Health Service laboratory.....	0	5	5	31	0	0
State department laboratory.....	0	8	5	55	0	1
Total.....	0	13	10	86	0	1

A supply of vaccine, antitoxins, and viruses is kept on hand for emergency cases.

*Prophylaxis.*—During the school year all school children who were not given the Schick test the previous year were tested, and those reacting were actively immunized.

Table XI is self-explanatory.

TABLE XI.—*Results of Schick test.*

Grade.	Number tested.	Number reacting.	Per cent reacting.	Number immunized.
Kindergarten.....	15	9	60.0	9
First.....	40	19	47.5	12
Second.....	7	2	28.5	1
Third.....	9	8	88.8	4
Fourth.....	13	3	23.1	3
Fifth.....	9	1	11.1	1
Sixth.....	8	2	25.0	1
Seventh.....	5	1	20.0	0
Eighth.....	2	0	00.0	0
Teachers.....	7	3	42.8	3
Total.....	115	48	41.7	35

## COMPARISON OF 1921 WITH 1920.

	1921.	1920.
Number of children given Schick test.....	115	100
Number of children reacting to test.....	48	33
Percentage reacting.....	41.7	33.3
Number actively immunized.....	35	33

## CHILD HYGIENE AND SCHOOL INSPECTION.

*Baby health conference.*—During the month of September a baby health conference was held in the clubhouse. The object of this conference was threefold: First, to determine the development and condition of each baby by a careful physical examination; second, to determine any physical defects; and third, to bring before the parents practical ideas in child care and training.

A committee from the women's club visited every mother having a baby under 3 years of age. At that time the object of the conference was explained to the mothers, and their babies were enrolled for examination at a definite hour on a certain day. Seventy-two babies were eligible for enrollment, and 70 were in attendance.

The examinations were made by Dr. Osincup, a pediatricist of the Public Health Service. He was assisted by the county public health nurse. Club women took charge of the dressing rooms and assisted the mothers in getting their babies ready for examination.

Data obtained from the mothers, together with the results of the examination, were placed on a record card (Form No. 11, furnished by the United States Public Health Service.

The educational features of the conference were very beneficial. An exhibit made up of 70 different charts and posters on care, feeding, and training of babies was installed in the clubhouse. Several lectures were delivered to mothers, and an illustrated lecture was given to the public and was followed by a moving-picture film entitled "Our Children."

It is believed that the enthusiasm aroused as the results of this conference will assist the department in establishing a child health center on the reservation in spring.

The data contained in the following tables were compiled from the cards filled out for each child.

TABLE XII.—*Statistical report on baby health conference.*

Age of babies examined.	Boys.	Girls.	Total.
3 months and under.....	3	1	4
4 to 6 months.....	5	1	6
7 to 12 months.....	6	9	15
13 to 18 months.....	2	7	9
19 to 24 months.....	7	6	13
25 to 30 months.....	4	5	9
31 to 36 months.....	10	4	14
Total number examined.....	37	33	70



TABLE XII.—*Statistical report on baby health conference—Continued.*

Feeding, nutrition, and physical condition.	Boys.		Girls.		Total.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Breast fed exclusively or until seventh month.....	15	40.5	14	42.4	29	41.5
Bottle fed exclusively.....	11	29.7	8	24.2	19	27.1
Breast fed short time exclusively, then bottle exclu- sively.....	11	29.7	11	33.3	22	31.4
Orange or tomato juice given—						
Daily.....	14	37.8	11	33.3	25	35.7
Irregularly.....	10	27.0	9	27.3	19	27.1
Never.....	13	35.1	13	39.4	26	37.1
Bottle babies 15 months and under—						
Receiving cow's milk.....	3	8.1	5	15.1	8	11.4
Receiving some kind of commercial "baby's food" or condensed milk.....	7	18.9	7	21.2	14	20.0
Nutrition:						
Excellent.....	7	18.9	9	27.3	16	22.9
Good.....	16	43.2	9	27.3	25	35.7
Fair.....	7	18.9	8	24.2	15	21.4
Poor.....	6	16.2	7	21.2	13	18.6
Very poor.....	1	2.7	0	0	1	1.4
Evidence of rickets.....	8	21.6	6	18.2	14	20.0
Suspected adenoids.....	7	18.9	5	15.1	12	17.1
Enlarged tonsils.....	6	16.2	3	9.1	9	12.8

## NUMBER OF BREAST OR BOTTLE FEEDINGS IN 24 HOURS FOR BABIES 12 MONTHS AND UNDER.

	Boys.	Girls.	Total.
Number of babies 12 months and under.....	14	11	25
Irregularly fed in 24 hours.....	3	3	6
4 feedings in 24 hours.....	2	1	3
5 feedings in 24 hours.....	1	1	2
6 feedings in 24 hours.....	4	2	6
7 feedings in 24 hours.....	3	3	6
8 feedings in 24 hours.....	1	1	2

## HYGIENE IN BEDROOM.

	Boys.		Girls.		Total.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Sleeping alone.....	36	97.3	30	90.9	66	94.3
No other persons in bedroom.....	11	29.7	4	12.1	15	21.4
1 other person in bedroom.....	3	8.1	3	9.1	6	8.6
2 other persons in bedroom.....	11	29.7	10	30.3	21	30.0
3 other persons in bedroom.....	7	18.9	13	39.4	20	28.6
4 other persons in bedroom.....	4	10.8	2	6.0	6	8.6
No data.....	1	2.7	1	3.0	2	2.8
Bedroom windows open.....	37	100.0	33	100.0	70	100.0

*School inspection.*—Immediately after the babies health conference the school children of the reservation were given a thorough examination. The results of this examination are contained in Table XIII.

TABLE XIII.—*Medical inspection of school children.*

	Boys.		Girls.		Total.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Children examined.....	77	.....	65	.....	142	.....
Defective children.....	61	79.2	51	78.5	112	78.9
Nondefective children.....	16	20.8	14	21.5	30	21.1

## RESULTS OF EXAMINATION.

Defective teeth.....	50	65.0	41	63.0	91	64.0
Defective tonsils.....	9	11.7	8	12.3	17	11.9
Symptoms of adenoids.....	26	33.8	11	16.9	37	26.0
Defective vision.....	7	9.1	16	24.6	23	16.2
Defective hearing.....	3	3.9	0	0	3	2.1
Defective heart.....	2	2.6	1	1.5	3	2.1

## NUTRITION.

Good.....	48	62.2	42	64.6	90	63.4
Fair.....	26	33.8	20	30.8	46	32.4
Poor.....	3	3.9	3	4.6	6	4.2

## USE OF TOOTHBRUSH.

Daily.....	31	40.2	34	52.3	65	45.7
Occasionally.....	27	35.1	21	32.3	48	33.8
Never.....	19	24.7	10	15.4	29	20.4

## DISTRIBUTION OF DEFECTIVE TEETH.

One tooth.....	8	10.4	3	4.6	11	7.7
Two teeth.....	11	14.3	8	12.3	19	13.3
Three teeth.....	9	11.7	11	16.9	20	14.1
Four teeth.....	8	10.4	10	15.4	18	12.7
Five teeth.....	4	5.2	2	3.1	6	4.2
Six teeth.....	4	5.2	3	4.6	7	4.9
Seven teeth.....	3	3.9	2	3.1	5	3.5
Eight teeth.....	3	3.9	1	1.5	4	2.8
Twelve teeth.....	0	0	1	1.5	1	.7

## DISTRIBUTION OF PHYSICAL DEFECTS (PERCENTAGES BASED ON TOTAL WITH DEFECTS).

Teeth only.....	27	44.3	23	45.1	50	44.6
Tonsils only.....	0	.....	0	.....	0	.....
Adenoids only.....	5	8.2	2	3.9	7	6.2
Vision only.....	3	4.9	6	11.8	9	8.0
Hearing only.....	0	.....	0	.....	0	.....
Tonsils, adenoids.....	3	4.9	1	1.9	4	3.6
Teeth, adenoids.....	9	14.7	3	6.0	12	10.7
Teeth, vision.....	2	3.3	5	9.8	7	6.2
Teeth, tonsils.....	0	.....	5	9.8	5	4.5
Vision, adenoids.....	1	1.6	0	.....	1	.9
Hearing, adenoids.....	1	1.6	0	.....	1	.9
Tonsils, vision.....	0	.....	1	1.9	1	.9
Teeth, tonsils, adenoids.....	7	11.5	1	1.9	8	7.1
Teeth, hearing, adenoids.....	2	3.3	0	.....	2	1.8
Teeth, vision, adenoids.....	1	1.6	2	3.9	3	2.7
Teeth, tonsils, adenoids, vision.....	0	.....	2	3.9	2	1.8

## NONDEFECTIVE CHILDREN COMPARED WITH DEFECTIVE CHILDREN.

Nondefective.....	16	20.8	14	21.5	30	21.1
Defective.....	61	79.2	51	78.5	112	78.9
Teeth brushed daily:						
Nondefective.....	9	56.2	10	71.4	19	63.3
Defective.....	22	36.1	24	47.0	46	41.0

TABLE XIII.—*Medical inspection of school children*—Continued.

NONDEFECTIVE CHILDREN COMPARED WITH DEFECTIVE CHILDREN—continued.

	Boys.		Girls.		Total.	
	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Teeth brushed occasionally:						
Nondefective.....	5	31.2	2	14.3	7	23.3
Defective.....	22	38.1	19	37.2	41	38.6
Teeth never brushed:						
Nondefective.....	3	18.7	1	7.1	4	13.3
Defective.....	16	26.2	9	17.6	25	22.3
Nutrition good:						
Nondefective.....	16	100.0	11	78.6	27	90.0
Defective.....	32	52.2	31	60.9	63	56.2
Nutrition fair:						
Nondefective.....	2	12.5	2	14.3	4	13.3
Defective.....	24	39.3	18	35.3	42	37.5
Nutrition poor:						
Nondefective.....	0	.....	0	.....	0	.....
Defective.....	3	5.0	3	5.3	6	5.3

*Weighing and measuring.*—Once each month the children were weighed and measured. The results of these weighings were placed on classroom charts and on the monthly report cards for the information of the children and the parents.

Table XIV shows the results of the December weighing for each grade. Following this table is a comparison of the September and December results.

TABLE XIV.—*Weight and height records, Perry Point School, December, 1921.*

Grade.	Num- ber exam- ined.	Normal or above.		10 per cent below to normal.		More than 10 per cent below normal.	
		Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Kindergarten.....	4	4	100.0	0	0	0	0
First.....	29	16	55.1	9	31.0	4	13.8
Second.....	24	8	33.3	10	41.6	6	25.0
Third.....	16	6	37.5	8	50.0	2	12.5
Fourth.....	20	8	40.0	11	55.0	1	5.0
Fifth.....	14	8	57.1	5	35.7	1	7.1
Sixth.....	16	7	43.7	6	37.5	3	18.7
Seventh.....	11	4	36.3	5	45.5	2	18.2
Eighth.....	7	5	71.4	1	14.3	1	14.3
Total.....	141	66	46.8	55	39.1	20	14.2

SEPTEMBER, 1921, AND DECEMBER, 1921, COMPARED.

	September.		December.	
	Num- ber.	Per cent.	Num- ber.	Per cent.
Total weighed and measured.....	143	.....	141	.....
Normal or above.....	35	24.5	66	46.8
10 per cent below to normal.....	58	40.5	55	39.0
More than 10 per cent below normal.....	50	34.9	20	14.2

## JUNIOR HEALTH DEPARTMENT.

The health department was handicapped somewhat without the services of a public-health nurse. To offset this handicap, a Junior Department of Health was organized among the school children. The department consisted of a junior health officer and five inspectors, one from each room. Assisted by the teachers, each classroom endeavored to receive the highest number of health credits by the following achievements:

1. Highest percentage of children of normal weight.
2. Highest percentage of children who have had physical defects corrected since the medical inspection.
3. Highest personal hygiene record, which included brushing the teeth at least twice each day, sleeping with windows open, having clean hands and fingernails each day, having a clean handkerchief each day, and keeping the health pledge each week.
4. Cleanliness of classroom.
5. Nearest correct temperature of classroom.
6. Thorough airing of classroom at least three times each day.

The interest which the children took in this work was remarkable and resulted in the correction of many physical defects, a higher nutritional standard, better personal cleanliness, and a healthier school.

*Children's playground.*—During the three summer vacation months a trained playground director was appointed to supervise our children's playground. This proved a valuable addition to our activities, and was beneficial in more ways than one. During the three months, 130 different children attended the playground. The daily average attendance was 23.

*"Cho Cho," the health clown.*—The biggest attraction of the year for the children was the entertainment given by Cho Cho, the health clown. This performance showed each child just how to play the game of health. It served as a climax or reward for all the public-health work done by the children during the year.

## SANITARY ENGINEERING.

*Malaria control.*—Mosquito-control operations started in April and lasted through October. The work consisted of digging new drainage ditches, maintaining old ditches, filling in and draining swampy places, and oiling. There are on the reservation approximately 6 miles of ditches which require systematic inspection and maintenance, 3 miles of shore line, and numerous swamps which require attention. All of the work in connection with mosquito control was done by three trained men.

It was evident that there was decidedly less breeding of *Anopheles* and *Culex* than during previous years. There were no cases of malaria reported on the reservation during the year. Nevertheless, there is a possibility that the malaria plasmodium may be introduced by patients, laborers, and colored help, many of whom come from communities where malaria fever is prevalent.

The following table summarizes the malaria control work for the year:

TABLE XV.—*Report of malaria-control operations, 1921.*

Month.	Salaries.	Travel.	Oil.	Total.	Ditching (feet).		Main-tenance	Filling in.	Oil used.
					Old.	New.			
April.....	\$124.80	.....	\$15.00	\$139.80	1,895	790	<i>Feet.</i> 5,055	<i>Cu.ft.</i> 8,000	<i>Gals.</i> 176
May.....	110.00	.....	14.00	124.00	1,233	979	2,989	2,550	53
June.....	244.57	\$32.82	.....	277.39	1,000	500	1,180	500	10
July.....	265.84	.....	.....	265.84	2,130	.....	2,400	1,200	110
August.....	306.07	.....	11.50	317.57	1,790	1,000	5,900	1,390	171
September.....	204.49	.....	11.50	215.99	835	425	3,595	1,100	130
October.....	68.64	.....	.....	68.64	100	.....	500	.....	15
Total.....	1,324.41	32.82	52.00	1,409.23	8,983	3,694	21,539	14,740	665

COMPARISON OF WORK AND EXPENDITURES, 1921 AND 1920.

	Expenditures.	Ditching (feet).		Main-tenance.	Filling in.	Oil used.
		Old.	New.			
1921.....	\$1,409.23	8,983	3,694	<i>Feet.</i> 21,539	<i>Cu.ft.</i> 14,740	<i>Gals.</i> 665
1920.....	1,803.93	5,150	7,542	7,990	2,905	566

*Water supply.*—The raw-water supply for the reservation comes from the Susquehanna River. The water is pumped from the intake channel by electrically-driven pumps through 30-inch mains to a mechanical filtration plant. As the water enters the settling chamber, samples are taken at two-hour intervals and analyzed to determine the amount of coagulant necessary to precipitate the suspended matter. The turbidity of the raw water varies greatly, and therefore the coagulant, alum sulphate, must be varied accordingly. The alkalinity of the water is also subject to change during the course of a day.

After settling for about two hours, the water flows by gravity into the rapid sand filters. Filtration takes place at the rate of 2 inches in 55 seconds. As the filtered water flows into the clear-water basin, liquid chlorine is added.

The capacity of the plant is estimated to be 1,500,000 gallons a day.

Bacterial and chemical analyses of the raw and filtered water are made each day.

During the year the following number of water samples were analyzed for various towns:

Town.	Number of samples analyzed.
North East.....	3
Wilmington.....	3
Perryville.....	4
Tome Institute (swimming pool).....	7
Tome Institute (drinking water).....	12
Total.....	29

*General sanitation.*—Under the heading of general sanitation are included the sanitary inspections of houses, basements, garbage and trash cans, and garbage and trash disposal places, and the investigation of sanitary nuisances. This work was done throughout the year at irregular intervals.

*Rat campaign.*—Owing to the fact that there is no incinerator on the reservation in which trash and garbage could be burned, the present dumping places harbor many rats which, in the course of the year, work their way to the village in large numbers. To combat these pests, a rat-trapping campaign was started in July and continued throughout the year. During the six-month period 375 rats were trapped and many others were poisoned.

*Fly campaign.*—Fly-breeding places on the reservation are comparatively few. The manure from the stables is removed at least twice each week and spread upon the land used for farming. The hog-feeding pens are cleaned daily, and the uneaten garbage is hauled away. The garbage cans around the hospital kitchens are kept in a clean condition at all times, and the daily collection of garbage throughout the village, limits breeding around the houses and other buildings.

There are, however, three places where flies either breed or gather for food in large numbers; they are the garbage-disposal fields, the trash dumps, and the garbage feeding floors.

A number of large flytraps were placed around the hog pens and other places where flies collected. It is estimated that over 50 pounds of flies were caught during two months. According to Dr. L. O. Howard, Chief Bureau of Entomology, United States Department of Agriculture, 50 pounds of flies would represent over 2,300,000 single flies.

*Food inspections.*—Regular inspections of food-handling places, such as the hospital kitchens, diet kitchens, dining rooms, store-rooms, etc., were made during the year. Inspections were also made of the grocery stores, meat markets, restaurants, boarding houses,

etc. The sanitary conditions in all these places have improved considerably during the year.

*Milk supply.*—The milk supply for the village is received from the Aberdeen Dairy, located about 6 miles from the reservation. The milk which is received from the farmers early each morning is pasteurized immediately, under the supervision and instruction of the local health department. After the milk is cooled to 50° it is hauled by truck to the reservation. Under this schedule the milk when it reaches the consumers is less than six hours old. Bacteriological and chemical samples are collected and analyzed twice each week. The results of these examinations are shown in Table XVI.

The milk supply for the hospital was obtained from two sources; during the first and third quarters from the Aberdeen Dairy, and during the second and fourth quarters from the Lancaster Dairy. The results of bacteriological and chemical analyses of both supplies are included in the table.

TABLE XVI.—*Bacteriological and chemical analyses of milk, monthly averages of butter fat, and temperature and bacteria per c. c. for the year 1921.*

Month.	Aberdeen milk for village.				Aberdeen milk for hospital.				Lancaster milk for hospital.		
	Number of samples.	Butter fat.	Temperature (degrees F.).	Bacteria per c. c.	Number of samples.	Butter fat.	Temperature (degrees F.).	Bacteria per c. c.	Butter fat.	Temperature (degrees F.).	Bacteria per c. c.
January.....	8	3.82	.....	26,000	8	4.0	.....	22,400	.....	.....	.....
February.....	6	3.86	.....	26,000	6	3.86	.....	15,400	.....	.....	.....
March.....	8	3.73	.....	117,100	8	3.75	.....	71,800	.....	.....	.....
April.....	9	3.85	61	22,700	9	.....	.....	.....	3.66	49	104,000
May.....	9	4.0	60	15,800	9	.....	.....	.....	3.6	58	49,000
June.....	8	3.8	65	57,700	8	.....	.....	.....	3.5	58	87,400
July.....	9	3.6	71	87,000	9	3.6	68	93,000	.....	.....	.....
August.....	9	3.49	63	118,300	9	3.5	58	156,200	.....	.....	.....
September.....	9	3.46	56	118,000	9	3.56	55	21,000	.....	.....	.....
October.....	8	3.9	55	44,300	8	.....	.....	.....	3.67	53	83,500
November.....	8	4.1	56	68,000	8	.....	.....	.....	3.8	52	82,000
December.....	7	3.99	52	17,700	7	.....	.....	.....	3.59	51	207,700
Yearly average.....	.....	3.8	59	59,800	.....	3.7	60	63,300	3.63	54	102,300

#### PUBLIC HEALTH EDUCATION.

It was the aim of the department to advise the people of the reservation and all others concerned, of the activities of the health department; also, to educate them to a better understanding of the term "public health service." This was done through lectures, circular letters, bulletins, exhibits, and newspapers. Several newspapers published the series of articles prepared by the Public Health Service on "The Growing Child" and "Your Baby." The bulletins most widely distributed are listed below.

*Issued by the United States Public Health Service:*

Typhoid Fever; Its Causation and Prevention.  
 Malnutrition.  
 Children's Teeth, a Community Responsibility.  
 Transmission of Disease by Flies.  
 Safe Milk.  
 Care of the Baby.  
 The Summer Care of the Baby.  
 Keep Well Series, Nos. 1 to 11.  
 Health Almanac.  
 Cooling Milk on the Farm.

*Issued by the Children's Bureau, Department of Labor:*

Prenatal Care.  
 Infant Care.  
 Child Care.

*Issued by the Bureau of Education, Department of the Interior:*

Teaching Health.  
 Diet for School Children.  
 Summer Health and School Play.

The following gives the number of bulletins and department circulars distributed during the year.

Month.	Govern- ment bulletins.	Health depart- ment circulars.
January.....	200	.....
February.....	100	40
March.....	.....	1,100
April.....	2,200	.....
May.....	75	500
June.....	110	.....
September.....	175	280
October.....	20	.....
December.....	10	500
Total.....	2,890	2,400

**Garbage Disposal by Feeding Hogs.<sup>1</sup>**

For approximately two and one-half years garbage has been disposed of upon the reservation by feeding it to hogs. The experience gained, certain results, and conclusions arrived at relative to the practice of disposing of garbage in this manner are enumerated below.

Daily collections of garbage are made from the hospital and village. This collection is made by one man, using a one-horse dump cart. The garbage is handled but once, being dumped directly from the cart onto the feeding floor at the hog house. By collecting daily and feeding the hogs on the same day that the collection is made, the garbage has the greatest food value. It has not soured, molds have not formed, and there is less likelihood of having any food poisoning. Daily collections are undoubtedly the best; but if this is not practicable, collections should be made not less than three times a week.

The dump cart used for the collection of garbage has a metal body with hinged covers, which allows it to be cleaned easily. It is the

<sup>1</sup> By C. H. Taylor, Farm Manager.



same type of sanitary dump cart in use at the United States Army encampments.

The amount of garbage collected per day varies with the season. The largest amount, though not necessarily of the greatest feeding value, is collected usually during July, August, and September. Rather than overfeed the hogs, any excess garbage, together with the refuse cleaned from the feeding floor, is dumped in any available field on the farm. This excess garbage and refuse is either cultivated into the soil or plowed under within one week from the time it was dumped. The fertilizing value of the garbage and refuse is considerable, at least enough to pay for the additional labor involved in plowing it under.

The hogs are fed upon a concrete feeding floor, which is thoroughly cleaned each day. No garbage or refuse is allowed to remain on the floor over two feeding periods. The hogs are usually fed about 2 o'clock in the afternoon. They have access to the feeding floor during the afternoon and evening, but are shut off the floor the next morning.

In order to feed garbage to hogs with any degree of safety, it is of the utmost importance that the hogs be given the sero-simultaneous treatment against hog cholera. If hogs are purchased, this should be given on the day they arrive. If breeding and raising pigs are carried on, the pigs should be treated at weaning time. There is considerable difference in opinion regarding the treatment of pigs. Some advocate giving the pigs the "serum alone" treatment at weaning time, followed in about six weeks with the sero-simultaneous treatment. Others give the sero-simultaneous treatment when the pigs are weaned. The latter method has been used on the reservation and satisfactory results have been obtained.

Whether it is more profitable to purchase feeders, averaging about 90 pounds in weight, or to breed and raise the pigs, is dependent upon many conditions which are more or less of local character. The amount of land and the buildings or building space available may decide the question. More land, more buildings or hog houses, and more small lots will be required if breeding is carried on. It will require more labor, for the sows and pigs will, for a short time at least, need attention, and in general require more attention than the same number of feeders.

On the other hand, the garbage feeding plant may be located in a section where feeders can not be purchased locally. This will necessitate buying at some market and shipping, possibly, a considerable distance, incurring in this manner the risk incident to shipping and loss in weight. By breeding, the exact type or breed desired may be had, which will not be possible if feeders are purchased. Generally speaking, breeding will probably be better for the small feeding plant, with a capacity not exceeding 50 to 60 hogs; but for the larger feeding plant it will doubtless be more profitable to purchase feeders.

As to the feeding of brood sows and pigs, the practice on the reservation has been to feed the sows a mixture of mill feed for a short time before and after farrowing; and to feed the pigs corn meal, middling, tankage, etc., for a few weeks after weaning. It is believed that better results will be obtained from this method of feeding than that of giving the sows and pigs nothing but the garbage.

The average number of hogs fed each month during the year 1921 was 70. The population of the reservation, including the village and hospital, was approximately 1,380. There was an excess of garbage most of the time and at all times the garbage supply was sufficient to properly feed the hogs on hand.

The hogs gained in weight on an average of from  $1\frac{1}{2}$  to  $1\frac{1}{2}$  pounds per day. They gained this amount consistently throughout the time that feeding of garbage was carried on.

The labor costs have been small: One man working nine hours each day can collect the garbage from this hospital and village daily, clean the feeding floors, feed the hogs, and haul all refuse and excess garbage to the fields. The cost of collecting the garbage is charged to the village and hospital; the time devoted to feeding, cleaning feeding floors, etc., is charged to the hogs.

The following will indicate to what extent the disposing of garbage by feeding hogs was profitable here during the year 1921:

Total costs for year 1921.....	\$1, 073. 65
Total credits for year 1921.....	1, 975. 70
Profits, or net receipts.....	902. 05

The costs include all labor charge to hogs, feed, serum and virus purchased.

The credits include the value of the hogs killed, dressed, and delivered to the hospital.

#### Summary.

This report outlines the activities of the health department on the United States Public Health Service Reservation at Perryville, Md., during 1921, its second year. The following are the outstanding features of the report:

1. The high birth rate, 38.41, the low death rate, 2.47, and the low infant mortality rate, 32.25, are of vital interest.
2. A comparatively small number of communicable diseases occurred on the reservation during the year.
3. Over 90 per cent of the school children are either naturally immune from diphtheria as determined by the Schick test, or have been actively immunized.
4. The medical examination of babies and school children resulted in the correction of many physical defects at an early age.
5. The Junior Health Department organized in the school is playing an important rôle in the "health game."

6. The safe water and milk supplies played an important part in maintaining a health standard.

7. Under sanitary engineering work, mosquito control operations are outstanding. The almost complete absence of the mosquito as a pest, as well as a carrier of malaria, helps to make this reservation a desirable dwelling place and a suitable place for United States Veterans' hospitals.

8. Garbage disposal at an annual profit of \$902 for a community of 1,382 population.

### FEDERAL ALLOTMENTS TO STATES FOR COOPERATIVE VENEREAL DISEASE WORK.

The following table gives the schedule of allotments to States of the sum of \$225,000 for cooperative work with the Division of Venereal Diseases, United States Public Health Service, appropriated by the act of February 17, 1922, entitled "An act making appropriations for the Treasury Department for the fiscal year ending June 30, 1923, and for other purposes." (Allotted on the basis of population, 1920 census.)

State.	Population, 1920 census.	Distribu- tion by per capita method.	State.	Population, 1920 census.	Distribu- tion by per capita method.
Alabama.....	2,348,174	\$4,997.98	Nevada.....	77,407	\$164.75
Arizona.....	334,162	711.25	New Hampshire.....	443,083	943.08
Arkansas.....	1,752,204	3,729.48	New Jersey.....	3,155,900	6,717.18
California.....	3,426,861	7,293.91	New Mexico.....	360,350	766.99
Colorado.....	939,629	1,999.96	New York.....	10,385,227	22,104.46
Connecticut.....	1,380,631	2,935.61	North Carolina.....	2,559,123	5,446.97
Delaware.....	223,093	474.65	North Dakota.....	646,872	1,376.84
District of Columbia.....	437,571	931.35	Ohio.....	5,759,394	12,258.59
Florida.....	968,470	2,061.34	Oklahoma.....	2,028,283	4,317.10
Georgia.....	2,895,832	6,163.64	Oregon.....	783,389	1,667.41
Idaho.....	431,866	919.21	Pennsylvania.....	8,720,017	18,560.14
Illinois.....	6,485,280	13,803.61	Rhode Island.....	604,397	1,286.43
Indiana.....	2,930,390	6,237.19	South Carolina.....	1,683,724	3,553.73
Iowa.....	2,404,021	5,116.84	South Dakota.....	636,547	1,354.86
Kansas.....	1,769,257	3,765.78	Tennessee.....	2,337,885	4,976.08
Kentucky.....	2,416,630	5,143.68	Texas.....	4,663,228	9,925.46
Louisiana.....	1,798,509	3,828.04	Utah.....	449,396	956.52
Maine.....	768,014	1,634.68	Vermont.....	352,428	750.13
Maryland.....	1,449,661	3,085.53	Virginia.....	2,309,187	4,914.99
Massachusetts.....	3,852,356	8,199.55	Washington.....	1,356,621	2,887.50
Michigan.....	3,668,412	7,808.05	West Virginia.....	1,463,701	3,115.42
Minnesota.....	2,387,125	5,080.88	Wisconsin.....	2,632,067	5,602.23
Mississippi.....	1,790,618	3,811.24	Wyoming.....	194,402	413.78
Missouri.....	3,404,055	7,245.37			
Montana.....	548,889	1,168.28			
Nebraska.....	1,296,372	2,759.26	Total.....		225,000.00

### DEATHS DURING WEEK ENDED APR. 22, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended Apr. 22, 1922, and corresponding week, 1921. (From the Weekly Health Index, Apr. 25, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Apr. 22, 1922.	Corresponding week, 1921.
Policies in force.....	48,819,583	46,621,006
Number of death claims.....	9,851	8,293
Death claims per 1,000 policies in force, annual rate.....	10.5	9.3